

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please add new claims 16-20 as follows:

LISTING OF CLAIMS:

1. (Previously Presented) A method of automatically finding one or more answers to a natural language question in a computer stored natural language text database, wherein said natural language text database has been analyzed with respect to syntactic functions of constituents, lexical meaning of word tokens, and clause boundaries, and wherein said natural language question comprises a question clause, comprising the steps of:

analyzing a computer readable representation of said question clause with respect to syntactic functions of its constituents and the lexical meaning of its word tokens;

defining, in response to the analysis step, a set of conditions for a clause in said natural language text database to constitute an answer to said question clause, said conditions comprising a condition stipulating that, for a clause in said natural language text database to constitute an answer to said questions clause, at least one of the constituents of said question clause should have a corresponding constituent in said clause having the same syntactic function and an equivalent lexical meaning;

identifying clauses in said natural language text database that satisfy said conditions; and

returning answers to said question clause by means of the identified clauses that match said conditions.

2. (Original) The method according to claim 1, wherein said set of conditions in the defining step comprises:

a verb condition stipulating that a clause constitutes an answer to said question clause if a lexically headed constituent having the syntactic function of main verb of said question clause has a corresponding lexically headed constituent in said clause bearing the syntac function of main verb and having an equivalent lexical meaning.

3. (Original) The method according to claim 1, wherein said set of conditions in the defining step comprises:

a subject condition stipulating that a clause constitutes an answer to said question clause if a lexically headed constituent having the syntactic function of subject of said question clause has a corresponding lexically headed constituent in said clause having the syntactic function of subject and having an equivalent lexical meaning.

4. (Original) The method according to claim 1, wherein said set of conditions in the defining step comprises:

an object condition stipulating that a clause constitutes an answer to said question clause if a lexically headed constituent having the syntactic function of object of said question clause has a corresponding lexically headed constituent in

said clause having the syntactic function of object and having an equivalent lexical meaning.

5. (Original) The method according to claim 1, wherein said set of conditions in the defining step comprises:

a manner adverb condition stipulating that a clause constitutes an answer to said question clause if a lexically headed constituent having the syntactic function of manner adverb of said question clause has a corresponding lexically headed constituent in said clause having the syntactic function of manner adverb and having an equivalent lexical meaning.

6. (Original) The method according to claim 1, wherein said set of conditions in the defining step comprises:

a place adverb condition stipulating that a clause constitutes an answer to said question clause if a lexically headed constituent having the syntactic function of place adverb of said questions clause has a corresponding lexically headed constituent in said clause having the syntactic function of place adverb and having an equivalent lexical meaning.

7. (Original) The method according to claim 1, wherein said set of conditions in the defining step comprises:

a time adverb condition stipulating that a clause constitutes an answer to said question clause if a lexically headed constituent having the syntactic function of time adverb of said question clause has a corresponding lexically headed constituent in

said clause having the syntactic function of time adverb and having an equivalent lexical meaning.

8. (Original) The method according to claim 1, wherein said set of conditions in the defining step comprises:

a causal adverb condition stipulating that a clause constitutes an answer to said question clause if a lexically headed constituent having the syntactic function of causal adverb of said question clause has a corresponding lexically headed constituent in said clause having the syntactic function of causal adverb and having an equivalent lexical meaning.

9. (Original) The method according to claim 1, wherein there is an interrogative pronoun in said question clause, further comprising the step of:

determining the syntactic function of the queried constituent of said question clause in response to the analysis step and said interrogative pronoun.

10. (Original) The method according to claim 9, wherein the syntactic function of the queried constituent of said question clause is determined as the syntactic function of said interrogative pronoun.

11. (Original) The method according to claim 9, wherein the analysis of lexical meaning of word tokens comprises an analysis of the broad semantic class of each word token of said natural language text database, and wherein the broad

semantic class of the queried constituent is determined in response to the interrogative pronoun.

12. (Original) The method according to claim 1, further comprising the step of:

extracting from said natural language text database portions of text comprising clauses satisfying said conditions.

13. (Previously Presented) A system for automatically finding one or more answers to a natural language question in a computer stored natural language text database, comprising:

storage means comprising said natural language text database which has been analyzed with respect to syntactic functions of constituents, lexical meaning of word tokens, and clause boundaries;

analyzing means for analyzing a computer readable representation of question clause of a natural language question with respect to syntactic functions of its constituents and lexical meaning of its word tokens;

defining means, operatively connected to said analyzing means, for defining, in response to an analysis performed by the analyzing means, a set of conditions for a clause in said natural language text database to constitute an answer to said question clause, said conditions comprising a condition stipulating that, for a clause in said natural language text database to constitute an answer to said question clause, at least one of the constituents of said question clause should have a

corresponding constituent in said clause having the same syntactic function and an equivalent lexical meaning; and

answer finding means, operatively connected to said storage means and said defining means, for identifying in said natural language text database clauses that satisfy said conditions and for returning answers to said question clause by means of said clauses that satisfy said conditions.

14. (Original) A computer readable medium having computer-executable instructions for a general-purpose computer to perform the steps recited in the claim 1.

15. (Original) A computer program comprising computer-executable instructions for performing the steps recited in the claim 1.

16. (New) A method of automatically finding one or more answers to a natural language question in a computer stored natural language text database, wherein said natural language text database has been analyzed with respect to clause boundaries, constituents, syntactic functions of the constituents, word tokens of the constituents, and lemmas of the word tokens, and wherein said natural language question comprises a question clause having an interrogative pronoun, comprising the steps of:

analyzing a computer readable representation of said question clause with respect to constituents, syntactic functions of the constituents, word tokens of the constituents, and lemmas of the word tokens;

identifying the interrogative pronoun in said computer readable representation of said question clause;

determining a syntactic function of interest based on the analyzing step and the identified interrogative pronoun;

identifying a constituent having the determined syntactic function in the question clause;

selecting a word token being a lexical head of the identified constituent in the question clause;

defining a set of conditions comprising a condition stipulating that, for a clause in said natural language text database to constitute an answer to said question clause, the clause comprises a word token having the same lemma as the selected word token of the question clause and being comprised in a constituent having the same syntactic function as the identified constituent of said question clause;

identifying clauses in said natural language text database that satisfy said conditions; and

returning answers to said question clause by means of the identified clauses that satisfy said conditions.

17. (New) The method of claim 16, further comprising the step of:

determining a syntactic function of a queried constituent based on the analyzing step and the identified interrogative pronoun,

wherein said set of conditions comprises a further condition stipulating that, for a clause in said natural language text database to constitute an answer to said question clause, the clause comprises a constituent having the same syntactic function as the queried constituent.

18. (New) The method according to claim 16, wherein the identified constituent of the question clause has the syntactic function main verb, the selected word token is a lexical head of the constituent having the syntactic function main verb of the question clause, and said set of conditions in the defining step comprises:

a verb condition stipulating that, for a clause to constitute an answer to said question clause, the clause comprises a word token being a lexical head of a constituent having the syntactic function main verb, and

having the same lemma as the lexical head of the constituent having the syntactic function of main verb of said question clause.

19. (New) The method according to claim 16, wherein the identified constituent of the question clause has the syntactic function subject, the selected word token is a lexical head of the constituent having the syntactic function subject of the question clause, and said set of conditions in the defining step comprises:

a subject condition stipulating that, for a clause to constitute an answer to said question clause, the clause comprises a word token being a lexical head of a constituent having the syntactic function subject, and having the same lemma as the lexical head of the constituent having the syntactic function of subject of said question clause.

20. (New) The method according to claim 16, wherein the identified constituent of the question clause has the syntactic function object, the selected word token is a lexical head of the constituent having the syntactic function object of the question clause, and said set of conditions in the defining step comprises:

an object condition stipulating that, for a clause to constitute an answer to said question clause, the clause comprises a word token being a lexical head of a constituent having the syntactic function object, and having the same lemma as the lexical head of the constituent having the syntactic function of object of said question clause.